

In re Patent Application of:
ROBERT M. HERRIN
Serial No. 10/721,962
Filing Date: 11/25/2003

Remarks

Claims 1-19 and 46-56 remain in the case. New Claims 57 and 58 are added by this amendment.

I. Informalities:

In the Detailed Action section (Page 2, Par. 1) of the above referenced Office Action, the Examiner makes reference to titles missing multiple "e"s. A close review of the application as filed failed to locate such typographical errors. As a result, the titles, specifically "Summary of the Invention" and Detailed Description of the Preferred Embodiments" remain unchanged. The review did identify sections of the specification where typographical errors can be corrected and element numerals added for clarity. As are result, Paragraphs 0007, 0030, and 0040 are amended as above presented. No new matter is added by this amendment.

II. Claim Rejections under 35 USC § 112

Claims 12-13 were rejected under 35 USC §112, second paragraph, as being indefinite and are herein amended as above presented to more clearly point out and distinctly claim the subject matter which Applicant regards as invention. Further, Claim 14 is amended to remove any uncertainty when being read and more clearly point out the subject matter Applicant regards as invention.

III. Claim Rejections under 35 USC § 102 are Improper

Claims 1-6, 8, 10-19, 48-52 and 55-56 were rejected under 35 USC §102(b) as being anticipated by US Patent No. 3,978,774 to Royal (Royal '774). Respectfully, Applicant traverses the rejection of these clams under 35 USC §102(b) as being

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improper. It is understood that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. Yet further, the cited reference must provide an enabling disclosure of the claimed invention. One of ordinary skill in the art would not arrive at the claimed invention based on the teachings of Royal '774. Respectfully, the rejection is unsupported by the art and should be withdrawn.

IV. Royal '774 Fails to Teach the Claimed Invention

Every element called for in Claims 1-6, 8, 10-19, 48-52 and 55-56 is not found in the Royal '774 reference as stated by the Examiner. Contrary to the Examiner's statement (Page 3, Par 6, Lines 5-8 of the Office Action) that Royal '774 discloses an apparatus comprising a compression plate 54 and fixed plate 74 (parallel to the path of the platen 48) that forms a passage therebetween, and a second folding arm 80 for biasing against the portion of the formed tray through the passage, a close reading of Royal '774 would indicate that there does not appear to be such a disclosure.

Consider the teachings of Royal '774 to include:

(a) Col 4, Line 14: side panels 15 passing between parallel, spaced apart plates 74 which are spaced apart a distance approximately equal to the transverse dimension of the bottom panel 12, as best seen in FIGS. 3 and 7;

(b) Col 4, Line 41: at the end of the downward movement, the side panels 15 have been folded substantially perpendicularly to the bottom panel 1

(c) Col 4, Line 50: When the expanded mandrel reaches the end of its downward movement, the end panels 14 are still in contact with the downward extensions 75, 76 and are thereby maintained in a substantially vertical plane. At this time, there is a dwell in the vertical movement of the mandrel, during which time a number of folding sequences automatically occur.

(d) Col 4, Line 57: Thus referring to FIG. 4, after the mandrel has stopped, top-to-

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bottom compressor arms 80, 82 are actuated in order to fold each shoulder panel to a position which is substantially perpendicular to its associated side panel and in order to hold each shoulder panel in a substantially horizontal plane while the remainder of the box is formed. More specifically, on each side of the machine adjacent to the bottom of the box forming station, a pair of bottom compressor arms 80 and a pair of top compressor arms 82 are provided. Each pair of compressor arms are mounted on a common shaft and the two shafts are geared together as shown at 84 in order to secure automatic, opposite rotation of the arms 80, 82. As best seen in FIGS. 4 and 7, a top-to-bottom compressor arm actuating cylinder 86 is provided and includes a downwardly extending piston 87 which is pinned to a crank arm 88. The other end of the crank arm is fixedly secured to the shaft 90. The lower compressor arms 80 and a spur gear 92 are also fixedly secured to shaft 90. The spur gear 92 engages a corresponding spur gear 94 which is fixedly secured to the shaft 96 as are the top compressor arms 82. The shafts 90, 96 are journaled in mounting blocks 98. Thus, it will be seen that when the cylinder 86 is actuated, the piston 87 will move downwardly causing a clockwise rotation of the gear 92 and the bottom folding arms 80. Additionally, a clockwise rotation of gear 92 will cause counter clockwise rotation of the gear 94 thereby causing the top compressor arms 82 to rotate downwardly. In this manner, the top compressor arms 82 perpendicularly fold the shoulder panels 17 with respect to the side panels 15 while the box is gripped along the bottom panel by the lower compressor arms 80.

(e) Col 5, Line 40: in operation, the mandrel 48 will be disposed within the formed box. Thus, when the cylinders 93 are actuated the end flaps 16, the end panels 14 and the connecting tabs 18 are compressed between the plates 89 and the outer transverse sides of the mandrel.

(f) Col 5, Line 61: When a sufficient period of time has elapsed to insure setting of the adhesive, the cylinders 93 are reverse actuated, the cylinders 59 attached to the mandrel base plate are reverse actuated thus contracting the mandrel to its minimum

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size so that it may pass between the horizontally disposed shoulder panels 17.

Thereupon, the cylinder 49 is reverse actuated so as to retract the mandrel. After the mandrel has been retracted, i.e., at least after the mandrel moves upwardly out of the formed box, the cylinders 86 shown in FIG. 4 are reverse actuated thus opening the top-to-bottom compressor arms.

IV. Royal '774 Fails to Anticipate Claimed Invention of Independent Claims

The structure disclosure in Royal '774 does not anticipate the claimed invention as limited by the features of independent Claims 1, 8, 48 and 51. Further, Royal '774 does not provide an enabling disclosure to one of ordinary skill in the art. The claimed invention including a second folding arm movable through a passage and positioned for biasing against the extended portion of the partially formed tray and for folding the extended portion through the passage, wherein the passage is formed by a fixed plate carried in spaced relation to a compression plate, and wherein the fixed plate is positioned for guiding the extended portion along a surface of the fixed plate onto a tray wall does not encompass, nor would not enable the patentee to exclude others from making, using, or selling an apparatus disclosed by Royal '774. It is clear that nowhere in the Royal '774 reference is a "passage" disclosed nor is a passage suggested as would appear to be interpreted by the Examiner. The location of the plates (74) spaced apart a dimension approximately that of the bottom panel (12) and the mandrel (48) including the compression plates (54) being held in position clearly show a teaching away from a passage as interpreted by the Examiner. Further, after the mandrel has stopped, top-to-bottom compressor arms (80, 82) are actuated in order to fold each shoulder panel to a position which is substantially perpendicular to its associated side panel and in order to hold each shoulder panel in a substantially horizontal plane while the remainder of the box is formed. Royal '744 clearly never intended nor ever suggested that the arms (80, 82) move other than perpendicular to the side panels, a

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teaching away from moving into any conceived passage. Further, the Examiner appears to use the same arm (80) of royal '774 for both the first and second folding arms in the claimed invention (see Office Action Page 3, Par 6, lines 4 and 7). Regardless of the broad interpretation of the space between the plates (74) and compression plates (54). The arms (80, 82) are not structured as in the claimed invention. Respectfully, Applicant asks that the Examiner evaluate the claimed invention based the claimed element combinations as logically connected to work toward a unitary result, and not on an aggregation of what has been interpreted as anticipated elements. From a practical point of view, the tray forming machine disclosed by Royal '774 cannot make the tray disclosed by the Applicant.

V. Royal '774 Fails to Anticipate Claimed Invention of Dependent Claims

Dependent Claims 2-7 and 10-19 depending from Claim 1, Claim 9 depending from independent Claim 8, and Claims 49-50 depending from independent Claim 48 and Claims 52-56 depending from independent Claim 51 add yet further limitations and are also felt to distinguish over the known and cited prior art.

Claim 3

While Royal '774 discloses a blank storage section, there is no suggestion regarding "an in-feed conveyor" structured such that the blank may be conveyed in a non-vertical orientation permitting gravity to hold a side surface of the blank against a conveyor surface. Yet further, Royal '774 does not teach nor suggest the in-feed conveyor in combination with the elements and limitations of Claim 1 2, and 3.

Claim 6 (As Currently Amended)

Royal '774 discloses an expandable mandrel (48) having compression plates (54) that are sized to operate with a bottom panel of the blank being folded, which plates are then moveable (63) to allow the mandrel to first form the blank into a box having the box shoulder panels (17) folded by the arms (82) and then retract to be able

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to be removed from the folded box. As supported by the specification (reference is made to FIGS. 9 and 10, by way of example), the platen (102) of the claimed invention comprises a preselected fixed peripheral portion dimensioned for folding a bottom panel of the blank into a preselected fixed shape. Royal '774 teaches away from such a fixed periphery for the structure and claim limitation of the platen (102).

Claim 11

As above addressed, Royal '774 teaches the top compressor arms (82) perpendicularly folding the shoulder panels (17) with respect to the side panels (15) while the box is gripped along the bottom panel by the lower compressor arms (80). The Examiner appears to be selecting the same element in Royal '774 for use as multiple elements as called for in the claimed invention. Royal '774 teaches the top compressor arm (82) working with the lower compressor arm (80) to secure the box and fold the shoulder panel (17). Claim 11 and the specification (see Par 37 and FIG. 4) identify a locking arm (168) being an additional element and not either of the first or second folding arms (120, 128) called for in the independent claims. Respectfully, the first and second folding arms identified by the Examiner as being element 80 in Royal '744, can not be both folding arms and be the locking arm as well. Clearly, the claimed invention distinguishes such features and limitations over that of Royal '744.

Claim 13 (As Currently Amended)

Claim 13 further distinguishes the claimed invention from Royal '774 by calling for a controller operable with the each of the drive devices for the timely movement ~~thereof~~ of each of the platen, the compression plate, the first folding arm, the second folding arm, and the locking arm in folding of the blank into the partially formed tray and after removal of the platen into the fully formed tray.

Claim 14 (As Currently Amended)

As supported by the specification (see par 40), a magazine styled frame is carried downstream the second position. As one of skill in the art appreciates, a

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"magazine styled" frame is one in which a work piece would be closely received by the frame. Royal '744 simply discloses discharging the box into a lower portion (110) of the apparatus.

Claims 15-16 and 18-19

Claims including details of the work piece should further distinguish the claimed invention over the cited art through a clear understanding of the structure and limitations called for in the claimed invention. While the Examiner gives no weight to the structure of the work piece, it is clear that Royal '774 does not disclose an apparatus nor suggest one that can make the tray/box from the blank. With a failure to construct such a box, one of skill in the art would not look to Royal '744 for a structure as claimed by the Applicant.

New Claims 57 and 58

New dependent Claims 57 and 58 depending from independent Claim 1 are added to identify one embodiment as supported by the specification as originally filed and clearly add limitations that distinguish over the cited reference to Royal '774. Support is found in the drawings of FIG. 12, by way of example, and in Paragraph 40 as herein amended to more clearly identify features of the embodiment as originally filed.

As supported by the specification (see Par 40 and FIG. 12), each of the first and second folding arms is rotatable about first and second axes of rotation, respectively, and wherein the first axis of rotation is generally perpendicular to the second axis of rotation. Yet further, the drive means is operable with each of the first and second folding arms for rotating the first and second folding arms about the first and second axes of rotation. As above described, Royal '744 clearly teaches folding arms (80, 82) rotatable with their respective axis generally parallel to each other in order to accomplish the objective of securing the box and folding shoulder panel (17) prior to reducing one length dimension of the mandrel (48) prior to retracting the mandrel from within the box. Clearly, Royal '744 does not disclose such arms and not the

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combination structure of Claims 57 and 1.

VI. Claim Rejection Under 35 USC § 103 Not Appropriate

Claims 7, 9, and 53-54 were rejected under 35 USC § 103 as being unpatentable over Royal; '744 in view of AAPA. Applicant traverses the Examiner's opinion that the use of bevelled corners as called for in dependent Claim 7 and 54, and surface depressions as called for in Claims 9 and 53 were acknowledged as being a prior art teaching. While bevels may be well known, the use of a bevelled platen corners (156) as presented in specification (see par 33 and FIG. 9 by way of example) and in the claimed invention as originally filed, are not known to be in the prior art as held by the Examiner. Further, the depressions formed on the compression surface are also not taught nor suggested, especially when taken in the context of the full claim including both the dependent and its related independent claim. The Examiner appears to have taken a response arguing that such additional limitations further distinguished the claimed invention over the cited prior art as admitting to such features used in combination with related claims as being well known prior art. Respectively, such was not the case.

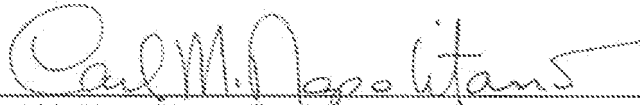
VII. Restriction of Claims 46-47 Traversed

As indicated in a previously submitted response, the purpose for submitting independent Claim 46 was to more clearly and distinctly claim subject matter that to the Applicant and the undersigned was being misunderstood by the Examiners handling this case. By way of example, functional language for which the Examiner was not giving credit in the apparatus claims with regard to novelty was removed. The purpose was not to burden the Examiner with a need for additional searching. As guided by the Examiner (see Office Action, Page 5, Par. 9), independent Claim 46 is amended to stay within the search art. For the reasons presented above, Royal '744 does not teach nor suggest such a claimed invention.

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Applicant asks that this application be allowed based on the clear distinction of the claimed invention over known prior art whether taken individually or in combination. This application is now felt to be in a condition for allowance. Because of the unusually long prosecution, including multiple office actions and multiple Examiners, Applicant and undersigned request a personal interview should the claims remaining in the case not be allowed as a result of the above amendments and arguments. If the further prosecution of the application can be facilitated through a telephone interview between the Examiner and the undersigned, the Examiner is requested to telephone the undersigned at the Examiner's convenience.

Respectfully submitted,



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